Similar production, different perception

Similar production, different perception: Social meaning in cross-linguistic speech perception

Zac Boyd,
Josef Fruehwald,
& Lauren Hall-Lew

The University of Edinburgh

@ZacBoyd_ @JoFrhwld @dialect

Sociophonetics, Gender, & Sexual Orientation

- Phonetic variation can serve as a robust cue to both speaker gender identity and sexual orientation.
  - These social meanings are indexed regardless of the speaker's actual identity (some straight men 'sound gay', etc.)
- Interestingly, some of these cues appear to be cross-linguistic.
  - e.g., sibilants, especially /s/

2

/s/ Variation and Gayness

- /s/ US & UK Englishes

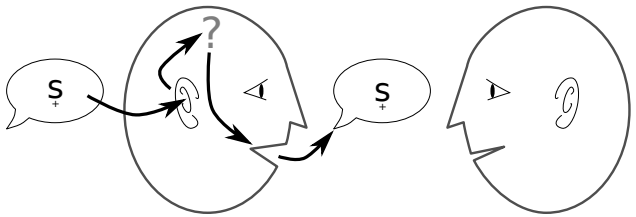
  Campbell-Kibler 2011; Crist 1997; Levon 2007, 2014; Munson 2007; Munson *et al.* 2006; Podesva & Hofwegan 2016; Zimman 2017
- /s/ Other Languages

  Danish: Maegaard and Pharao 2015; Pharao *et al.* 2014; Dutch: Boyd 2014; Hungarian: Rácz and Papp 2015; Spanish: Mack 2010; Walker et al. 2014
- Compared to straight men, gay men's /s/
  - Higher Centre of Gravity (CoG) (Niebuhr *et al.* 2011: 10)
  - Negative Skewness

  (c.f. Munson *et al.* 2006; Munson 2007; Zimman 2013)

3

Today's Talk



4

Today's Talk

1. Few studies have looked at this variation in **French** or **German**, and,
2. Few studies have considered bilingual or cross-linguistic recognition of indexical cues (but see Vaughn 2014; Szakay et al. 2016).

3. TODAY:
   - F & G speakers: /s/ indexicality in production?
   - F & G listeners: /s/ indexicality in perception?
     - Both in native language and cross-linguistically (*i.e.* non-native G/F, English, & Estonian)

5

French and German Production – Boyd 2017

- White / Highly Educated / Middle Class / Cis-Gendered Male / Millenials (age 21-30)
- L1 French or German (19 Speakers)
  - French: 4 Gay; 4 Straight
  - German: 7 Gay; 4 Straight
- L1 & L2 English

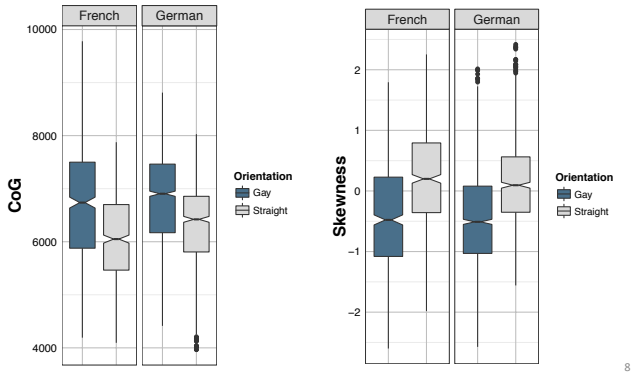
6

French and German Production – Boyd 2017

- Results:
  - Both French and German speakers vary /s/ according to sexual orientation.
  - Higher /s/ CoG (and more negative skew) appears to be an indexical marker of gay identity (at least in production)

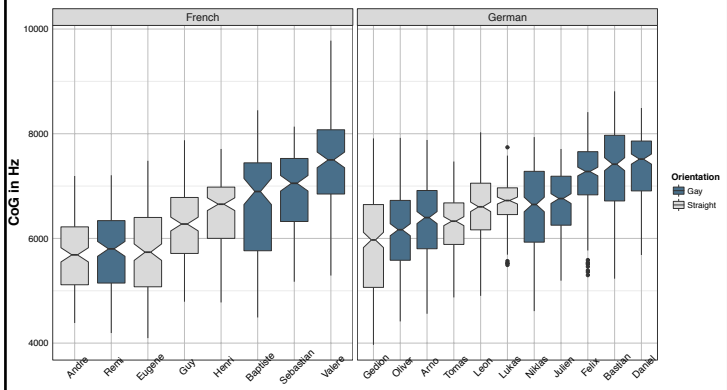
7

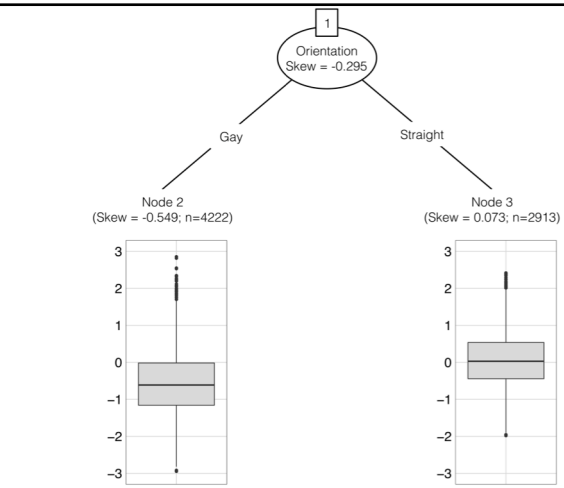
French and German Production – Boyd 2017



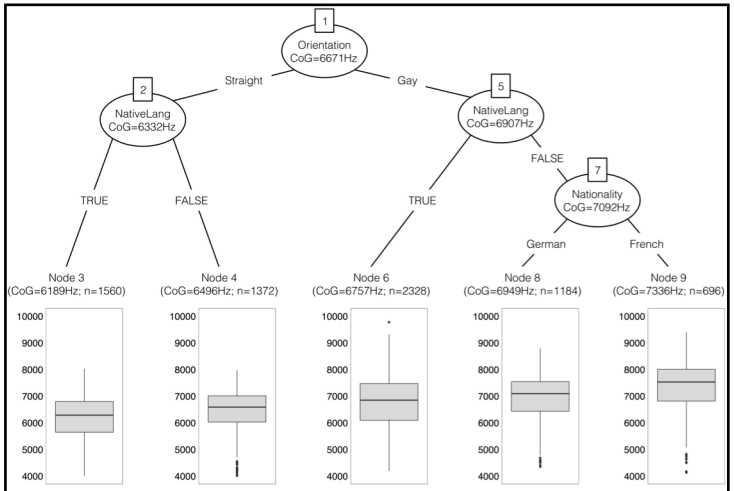
8

French and German Production – Boyd 2017





Skewness ~ Orientation + Nationality + NativeLang



CoG ~ Orientation + Nationality + NativeLang

French and German Production – Boyd 2017

Q: "Can you tell if someone is gay by how they speak?"

"Something in Speech"	Prosody	/s/ in English	/s/ in L1
18/19	13/19	***1/19***	***0/19***

'Oh, I've heard of [the "gay lisp"] in English, but we definitely don't have it' – German Gay

Core Questions

- To what extent might French and German *listeners* use /s/ variation as a cue to perceiving someone as gay?
- Do these socio-indexical cues extend cross-linguistically to languages the listener is (un)familiar with?

13

Methods

- Levon (2006, 2007) & Pharao *et al.* (2014)
- Matched-Guise Test (Lambert *et al.* 1960)
  - Three [s] guises: [s-], [s], & [s+]
  - Three pitch guises: low-, mid-, & high-
  - One speaker per language stimuli set
- Audio from read speech
  - English (Essex): *Snow White*
  - French (Lyon): *Le Petite Chaperon Rouge*
  - German (Düsseldorf): *Rotkäppchen*
  - Estonian (Püünsi): *Venevere Muinasjutt*

14

Stimuli – /s/ guises

/s/ Guise	CoG	Skew
[s-]	5208	1.1502
[s]	6436	0.033
[s+]	7988	-1.0795

- 4+ instances of /s/ per segment
- Not controlled for medial/onset/coda
- Matched for intensity & duration of original speech

	English	Estonian	French	German
[s-]				
[s]				
[s+]				

15

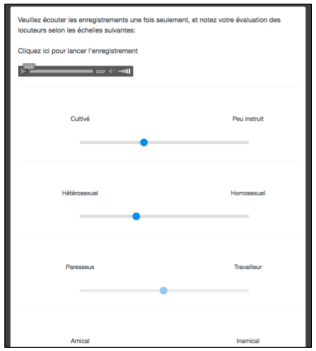
Stimuli – Pitch Guises

- Comparison Variable
- Segments containing no sibilants (/s/, /z/, /ʃ/)
- Mid pitch
  - Very minor manipulation which averaged pitch across all speakers
- Low- & high- pitch guises
  - Adjusted mid pitch by ±25Hz

16

Methods

- Online via Qualtrics
  - 23 German participants
  - 32 French participants
- Guises rated on 6 semantic differentials:
  - **Educated/Uneducated**
  - **Straight/Gay**
  - Lazy/Hardworking
  - Friendly/Unfriendly
  - **Masculine/Effeminate**
    (German: Maskulin/Feminin*)
  - Natural/Synthetic



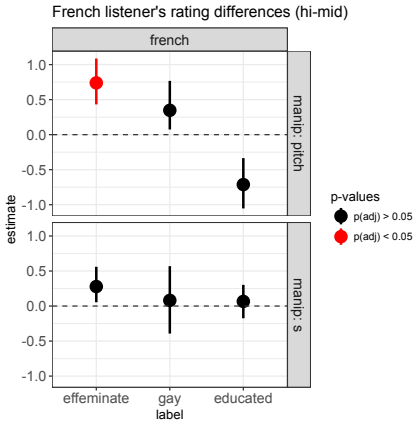
17

Analysis

- Estimated pseudomedians and confidence intervals via Hodges-Lehman estimator
  - Linguistic feature (/s/ or pitch)
  - Stimulus language
  - Rating scale
- P-values: one-sample Mann-Whitney U tests
  - Adjusted for multiple comparisons using the Holm-Bonferroni method

18

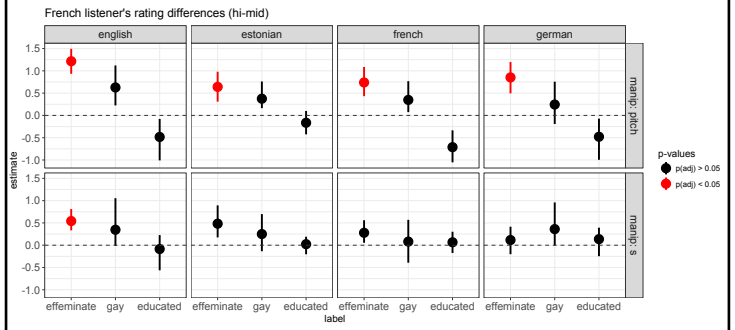
French Results



Null result for /s/ manipulation.

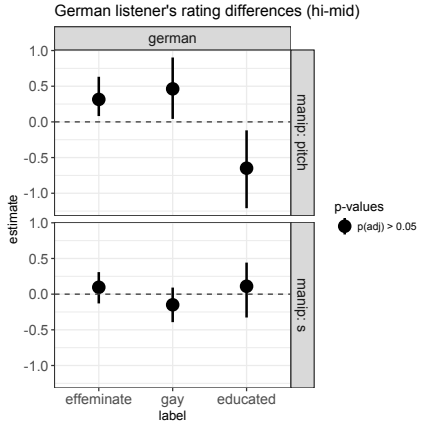
19

French Results



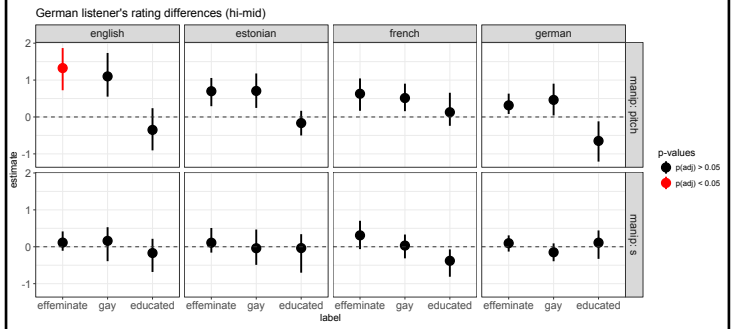
20

German Results



Null result for /s/ manipulation.

German Results

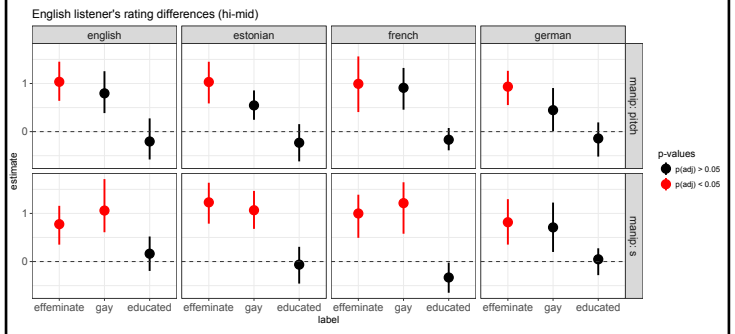


Sanity Check: English

Results seen for both pitch and /s/ manipulation

Sanity Check: English

Positive effect for the same stimuli for English listeners.



All together now

Graph of All three languages together on /s/ stimuli

25

Summary

- /s/ results:
  - French and German listeners do not hear [s+] as "gay" or "effeminate"
  - Contrast to English listeners who hear it as "gay sounding" in native lang. stimuli as well as other languages (*i.e. indexical transfer* from English to other languages)
- No effects seen for listeners':
  - Sexual orientation or gender
  - English (or other) language ability

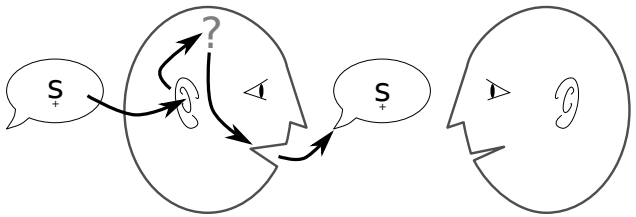
26

Discussion

- The results show a mismatch between production and perception of /s/ indexicality for both French & German gay/straight identity.
  - This was for own-language, but also other-languages, regardless of proficiency (cf. English listeners).
- Hence, "Gay and Straight French and German Men Use Different /s/-es but Don't Perceive Them Differently"

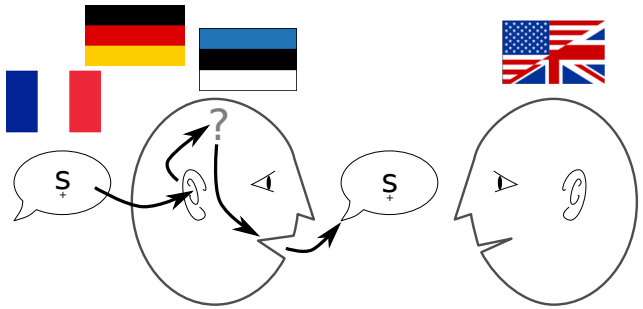
27

Discussion

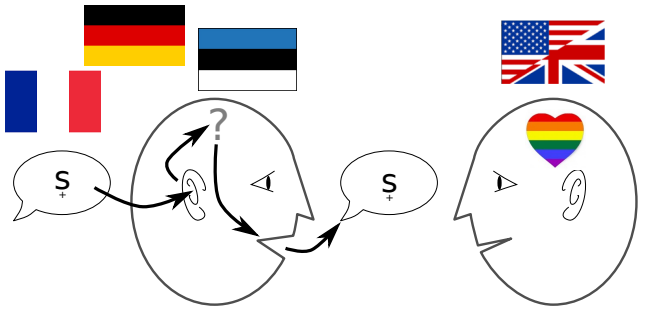


28

Discussion



Discussion



Discussion

- Our evidence supports the observation that indexicality in production precedes indexicality in perception:
  - Indexical orders rely on "recognition" (Agha 2003) of signs as *being signs*, i.e., as marking stylistic distinctiveness (Irvine 2001).
  - French/German [s+] currently has "meaning potential" (Eckert 2016), waiting for its "baptismal moment" (Silverstein 2003) to be taken up as an index of gay identity.

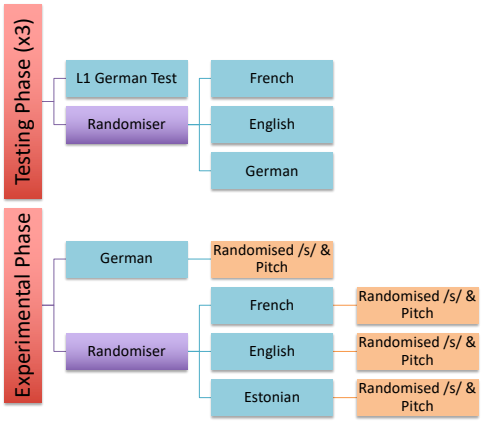
Thank You!

- Thanks for you attention!
- Special thanks to our translators
  - Mirjam Eiswirth (German); University of Edinburgh
  - Michaël Gauthier (French); University of Lyon 2
- Additional thanks to:
  - Our pilot participants for their invaluable feedback
  - Members of the *Language Variation and Change Research Group* at the University of Edinburgh

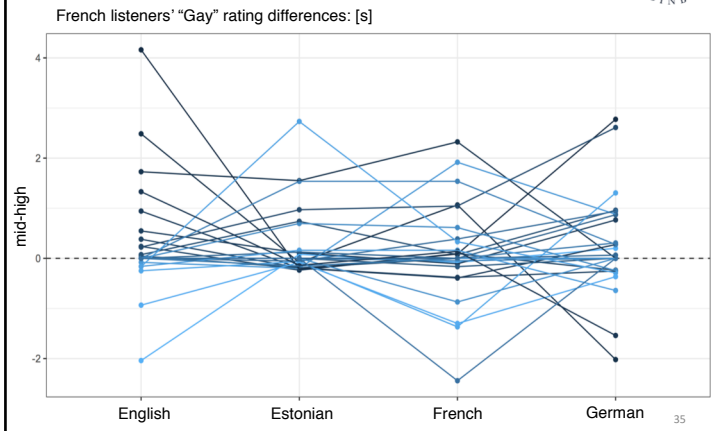
Twitter: @ZacBoyd_ @JoFrhwld @dialect References Available upon request

Extra Slides

Testing (e.g. German)



Listener Variability



Respondents

Survey Language	Total	Native Language ≠ Survey Language	Remaining participants
German	27	4	**23**
French	44	12	**32**

German Listeners' Birthplace:
Austria (N=13); Germany (N=11); Italy (N=1); Switzerland (N=1); unknown (N=1)

French Listeners' Birthplace:
Belgium (N=1); Canada (N=4); France (N=26); Switzerland (N=1)

Methods

- Four stimuli languages
  - one speaker per language

Pretest Ratings
(7pt Likert Scale)

Speaker	Straight/Gay	Masc./Effem.
English (Essex)	1.733	2
French (Lyon)	2.866	2.333
German (Düsseldorf)	2.333	1.866
Estonian (Püünsi)	2.333	2

37

Other Future Directions

- Listeners were very diverse with respect to regional dialect/accent background.
  - English listeners were raised in Australia (N=1), New Zealand (N=1), the UK (N=9), and the US (N=16).
  - French listeners were from Belgium (N=1), Canada (N=4), France (N=26), and Switzerland (N=1).
  - German listeners were from Austria (N=13), Germany (N=11), Italy (N=1), Switzerland (N=1), or unknown (N=1).
  - **Future:** Control for region (especially given known differences in English; Stuart-Smith 2017).

38

Discussion

- However, the speakers who produced the distinction were not the same people who responded to the perception survey.
  - **Future:** Production/Perception within the same participant group.
- This matters for understanding the mechanism behind production/ perception mismatches:
  - e.g., in phonetics/phonology (e.g., near-mergers)
    - Note: near-merger is *within* the same speaker-listener

39

Stimuli – Pitch Guises

- "Filler Stimuli"
- Segments containing no sibilants (/s/, /z/, /ʃ/)
- Mid pitch
  - Manipulated within ±5Hz across all speakers
- Low- & high- pitch guises
  - Adjusted mid pitch by ±25Hz
- Estonian pitch

Estii low Estii mid Estii high

40